

VIRGINIA WILDLIFE

SEPTEMBER 2003

TWO DOLLARS





Director's Column

William L. Woodfin, Jr



While some folks are thinking about the opening of dove season or getting ready for the upcoming deer season, we'd like to remind you that there is still a great deal of good fishing, wildlife watching and boating to be had. All across the Commonwealth, we are fortunate to have at our feet a wide variety of outdoor recreation opportunities. Whether you hunt, fish, bird watch, like to take your powerboat for a spin, or do all the above, we have some of the best sites for all those activities and experiences.

This month in Virginia we are chock full of things to do outdoors. The FLW Jacobs Cup "Road to Richmond" bass fishing tournament will be held in early September on the lower James River. Later on in the month, the 2003 Ducks Unlimited Great Outdoors Festival will be held at the Virginia Motorsports Park in Petersburg.

September also will see the launch of the Western Phase of the Virginia Birding and Wildlife Trail. Within Virginia's 43,000 square miles of diverse natural habitat, you can find some 400 species of birds, 250 species of fish, 150 species of terrestrial and marine animals, 150 species of amphibians and reptiles, and a wide variety of aquatic and terrestrial invertebrates. We believe you will find that the Birding and Wildlife Trail

will offer something for everyone.

This month we also have a great opportunity to show off the Commonwealth's fantastic water resources to visitors from across the country when we host the annual conference of the National Association of State Boating Law Administrators (NASBLA). The association represents boating authorities from all 50 states and the U.S. territories. NASBLA is dedicated to reducing boating accidents, saving lives and helping to make boating safe and enjoyable on our nation's waterways. Our Boating Law Administrator Charlie Sledd and our Boating Education Coordinator Jeff Decker and a number of fine volunteers work hard to get the word out about boating laws and safe boating. Each month we feature a boating article in the magazine by Jim Crosby, and this month's piece gives some solid advice on using your boat horn to communicate to your fellow boaters on the water.

We hope you have had many opportunities during the summer to get out and take advantage of Virginia's great natural resources. And we know you will find the upcoming fall months to be an even greater time to hunt, fish, boat, watch wildlife, and just generally enjoy what Virginia has to offer.

Mission Statement

To manage Virginia's wildlife and inland fish to maintain optimum populations of all species to serve the needs of the Commonwealth; to provide opportunity for all to enjoy wildlife, inland fish, boating and related outdoor recreation; to promote safety for persons and property in connection with boating, hunting and fishing.

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About the cover: The largemouth bass is Virginia's most popular game fish and is found in every county of the state. Photo ©Dwight Dyke

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Bass Fishing



Whether you're fishing a river, reservoir or a farm pond, Virginia's first-rate largemouth bass fishing is hooking anglers from across the state and beyond.

Bonanza



isn't a county that doesn't have some pretty good bass fishing. Even many of those small reservoirs tucked in the folds of the mountains are brimming with largemouth.

However, some waters stand head and shoulders above the rest. Among the best are several Department-owned lakes that have been intensively managed to provide quality fishing. Virginia's standout water is without a doubt Briery Creek Lake, an unparalleled, big bass water. It's garnered national attention thanks to a high population of huge largemouth bass that test the skills and patience of the most dedicated bass anglers.

According to fisheries biologist Vic DiCenzo, who works at the Farmville field office, 23 of the state's 25 largest bass have all come from this diminutive reservoir in Prince Ed-



Opposite page: It's no wonder the largemouth bass is one of the country's most popular game fish. They're a challenge to catch, put up a great fight, and are found throughout the state. Above: Fisheries biologists John Odenkirk (left) and John Kauffman collect data from largemouth bass caught during sampling efforts.

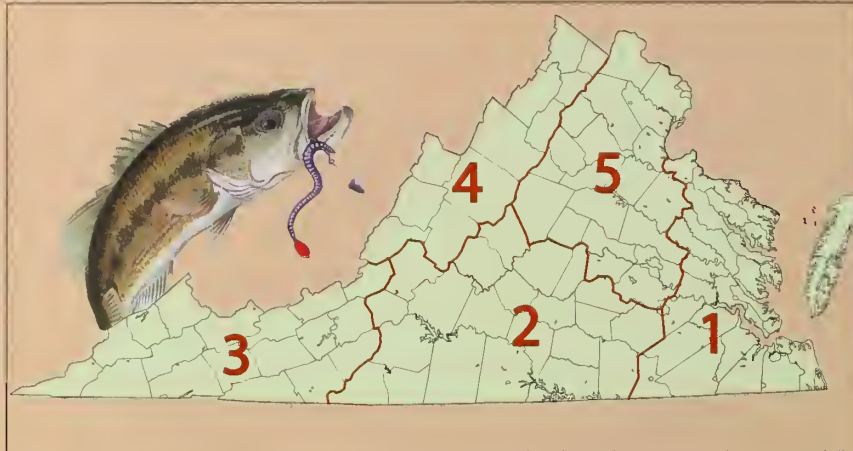
photos and story
by David Hart

Hotspots and Hotter Spots

Virginia is loaded with great bass fishing destinations and opportunities. From tidal rivers to mountain lakes to sprawling reservoirs to those tiny farm ponds that are generously scattered across the state, a good bass fishing spot is probably no more than a few minutes from your front door.

In fact, anywhere you find fresh water, you'll probably find at least a few largemouth. Although these fish are native only to the southeastern corner of the state, private stocking efforts, along with the efforts of Virginia Department of Game and Inland Fisheries personnel, have helped distribute these popular fish to the four corners of the state. There

ward County. That statistic is impressive enough by itself, but when you consider that this lake is less than a thousand acres, and that it wasn't opened to fishing until 1989, that number becomes even more astounding. DiCenzo adds that the sta-



Virginia's Top Bass Waters

Region 1

Chickahominy Reservoir
Suffolk Lakes
Little Creek Reservoir
James River

Region 2

Briery Creek Lake
Kerr Reservoir
Smith Mountain Lake
Sandy River Reservoir

Region 3

Claytor Lake
South Holston Lake

Rural Retreat Lake
Hungry Mother Lake

Region 4

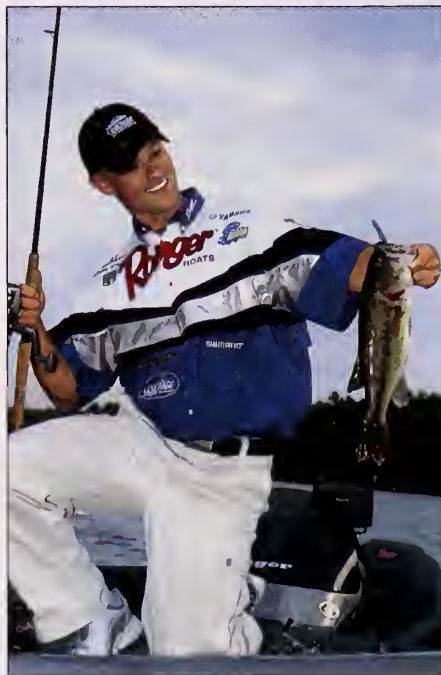
Lake Frederick
Lake Moomaw
Skidmore Reservoir
Elkhorn Lake

Region 5

Lake Anna
Burke Lake
Potomac River
Lake Chesdin
Lake Orange

tistics go all the way back to the 1950s, when the Angler Recognition Program was started. Think about it: of the state's 25 largest bass ever, 23 were caught from Briery Creek Lake, all within the last 15 years. Two of those were over 16 pounds and countless bass over ten pounds have been wrestled from the clear waters of this lake.

"The key to Briery's success is really two-fold," explains DiCenzo. "First, we left all the timber standing when we flooded it and we introduced bass that had Florida-strain genetics. Florida bass tend to grow larger and faster than the northern strain fish that are native to Virginia. We thought we were stocking pure Florida-strain bass, but as it turned out, they were a hybrid between northern bass and Florida bass. Ei-



ther way, the Florida genes really took hold."

All that standing timber has helped Briery's bass grow big not only because it helps boost the nutrient level, but for another reason: They've got plenty of places to hide, and even if they do fall for a lure or live bait, there's a good chance a Briery bass will dig deep down into the tangle of tree limbs and wrap your line around some sunken brush. Snap. Goodbye.

Briery, however, has become a victim of its own success. If you want a crack at one of this lake's double-digit largemouths, plan on waiting in line. During the peak months of March, April and May, anglers descend on the quiet little college town of Farmville not just from all over the state, but from as many as 15 different states. Data collected by creel clerks found that during that three-month period, anglers put in 40,000 hours of effort.

Plenty of other lakes have first-rate bass fishing, so don't think you need to drive to central Virginia to put a lure in front of a big fish. (You will, however, be glad you did make the trip to Briery.) Ask any district biologist about the bass fishing in his territory and he'll dote on a few waters like a proud father boasting about his children. John Odenkirk, a biologist from Region V, points a quick finger at 218-acre Burke Lake, an oasis amid the rapid urban growth of Northern Virginia. It's one of the most-heavily fished lakes in the state, possibly the country, but it's loaded with quality largemouth. In fact, it typically ranks as one of the best lakes in the state in terms of numbers of bass and the average size of the fish.

"Burke is a phenomenal lake, but it's very difficult to fish. I sometimes get calls from anglers who complain about the lack of fish in Burke, but our sampling efforts show an abundance of quality fish," he explains.

Fishing tournaments not only bring in dollars to the anglers, but they can bring in extra money to local economies.



Private lakes and farm ponds are often loaded with largemouth. Ask politely, and you might just find your way to bass fishing heaven.

"The reason the bass are hard to catch is because of the heavy fishing and the abundance of natural forage. Burke is loaded with shad."

Other standout waters include the Suffolk Lakes, a series of Tidewater-area water supply lakes that traditionally produce high numbers of trophy-sized bass, Smith Mountain Lake, Lake Anna, Kerr Reservoir, Chickahominy Reservoir, and a host of other large and small lakes. Even our tidal rivers, the Potomac (technically, it's owned by Maryland), the Rappahannock, the Chickahominy, the James and others all offer first-rate bass fishing.

Another great place to cast a lure for largemouth is in the George

Washington and Jefferson National Forest. A couple dozen lakes, ranging in size from a few acres to 2,500-acre Lake Moomaw, are brimming with bass. In fact, many of the smaller reservoirs tucked in the mountains are stocked with trout, and once the stocking season closes, the lakes are deserted. Many of these waters offer great bass fishing.

Catch 'em...If You Can

Although largemouth bass may be in just about every body of water that you see out your windshield as you drive across the state, there's no guarantee that you'll catch any the next time you head to your favorite water. That's why they call it fishing and not catching. But spring time offers a darn good shot at catching at least a few. And if all the pieces fall

Farm Ponds

If there are no guarantees when it comes to bass fishing, farm ponds offer a pretty fair shot of at least catching a few fish. The bass have only so many places to hide. Virginia has about 80,000 of these private waters and it's a safe bet the vast majority have largemouth bass in them. The hard part is getting permission. While some landowners don't hesitate to say "no" to everybody who asks, many are willing to give permission to those who are responsible and ethical.

If you do ask, assure the landowner that you won't leave any trash and that you are willing to throw back everything you catch. In fact, if you do get permission, pick up any trash you find and leave the place a little better than you found it. That may be all it takes to open the door to a lifelong fishing spot.

Good pond lures include 1/8-ounce spinnerbaits, 4-inch plastic worms, small crankbaits, in-line spinners and a variety of surface baits.

into place you might have a pretty memorable day. Jetersville resident John Crews recalls just such a day on 50,000-acre Kerr Reservoir. He and friend Dr. Greg South were casting suspending jerkbaits (a slim, minnow-shaped hard plastic lure) to wind-blown pockets on the main lake, a tactic that proved to be the right one for that day.

"We ended up catching about 30 bass. The biggest was over six pounds; we had a couple of five-pounders and lots of threes. It was one of those days to remember," says 26-year-old Crews.

He's one of a handful of Virginians who actually make a living catching bass. Crews travels the country fishing in high-dollar tournaments, but he's proud to call Virginia home. He learned the basics of bass fishing in a pond in his back-



Bass anglers can choose from thousands of lures. All of them will catch fish at one time or another. The key, however, is to keep trying different sizes and colors until you figure out the right one for the day.

yard, but he soon branched out and started learning the ways of bass and bass fishing all over Virginia. If anybody can catch bass, it's Crews. But even good bass anglers draw a goose egg occasionally, and Crews has had plenty of memorable days that he'd just as soon forget. Nobody catches fish every time they try, but the key to success, says Crews, is to practice.

"I learn something every time I make a cast. I'll be learning until the day I quit fishing. There are so many variables when it comes to bass fishing that no matter what, you won't catch a ton of bass every time you try. If I could I'd be a rich man," he says.

Choose a Lure

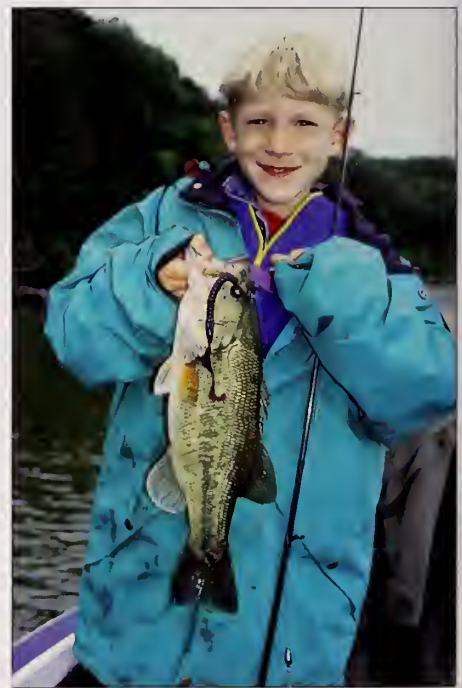
Spring can be as forgiving as a small-town preacher or as humiliating as Cinderella's cruel stepmother. It all depends on the weather, says Crews. That's why he, along with pretty much all other dedicated bass anglers, have a tackle shop full of lures in their boats and garages. The odds are pretty good they will have something the bass want. The key, of course, is determining which lure it is.

"If there have been several days of real warm weather, then the bass will likely be up shallow and they can be real easy to catch. I like to throw floating worms, soft plastic jerkbaits and spinnerbaits in coves, creeks and pockets off the main lake in April. That's where bass typically spawn, and in April and May they are either just about to spawn or they might even be on their beds," he explains. "If they are on their beds, you can sight fish for them in clear water and use soft plastic lizards, tubes, soft plastic stick baits and other soft plastic lures to catch them."

However, the passing of a cold front or a long period of unseasonably cool weather can push the fish out of the shallows and back into deeper water. When that happens, Crews suggests fishing deeper points in coves with slow-moving baits such as hard jerkbaits, Carolina and Texas-rigged lizards and worms, and jig-and-pig combina-

tions. Another great rig that has taken the bass fishing community by storm is called a drop-shot rig. It's nothing more than a hook, a sinker and a small soft plastic lure, typically 3 inches or less. The trick is to tie the hook with about 3 feet of line hanging from the knot with the sinker crimped to the end of that extra length of line extending from the knot. This rig keeps the lure up off the bottom, but close enough to it that fish hugging the lake bed can see it. Drop-shots have become the rig of choice for those days when the bass just don't seem to want a standard lure. But even drop-shots don't always produce.

"There have been plenty of times that I've either been skunked completely or I've only caught one or two fish. It's not always easy to catch bass. You just have to keep trying and keep trying different lures until you figure out what the fish want," says Crews. □



David Hart is a freelance writer from Farmville. David is a regular contributor to *Bassmaster*, *American Angler*, *Bass Pro Shops Outdoor World* and many other national and regional publications. He is the author of *Fly Fisher's Guide to Virginia*, including *West Virginia's Top Waters* (www.wildadv.com).

Largemouth Bass:



Quest for the
Million Dollar Fish

With a lot of research and a little patience, fisheries biologists are helping to put Virginia on the map as a prime location for trophy bass angling.

story by William B. Kittrell, Jr.
photos by Dwight Dyke

A little over 70 years ago, as George Perry sat in a homemade wooden boat on Montgomery Lake, Georgia, he lightly twitched his Creek Chub

record. It would bring both fame and fortune (conservatively estimated to be 1 million dollars in endorsements) to the lucky individual who could accomplish the feat.

In Virginia, Richard Tate caught a bass at Lake Conner (Halifax County) that weighed a whopping 16 pounds, 4 ounces. This became the state record that has stood since 1985. The only real threat has come from a bonafide big bass factory, Briery Creek Lake in Prince Edward County. This 845-acre impoundment, owned by the Virginia Department of Game and Inland Fisheries, opened to fishing in 1989 with much fanfare. It soon became apparent that this lake was something special, and anglers started hauling in lunker bass. In the spring of 1995, a 16 pound, 3 ounce bass was caught, which just missed breaking the 1985 state record.

occurs only from the lower portion of the Sunshine State. Although we'll never know the genetic make-up of George Perry's fish, which was eaten by his family (it was the Depression after all), researchers have categorized that part of Georgia as having a Florida intergrade. This just means that these largemouth bass have genetic traits of both the northern and the Florida bass. This intergrade zone extends from central Florida up through the Carolinas and Virginia and across much of the South. Pure Florida bass and Florida intergrades have been stocked throughout the country from small farm ponds to large reservoirs. Some of these introductions have been highly successful. Others have been marginal at best.

Lake Conner was stocked in the mid-1970s with Florida bass, and although the state record was never



Wiggle Fish lure once, and then again. Suddenly, there was an explosion of water at the surface, and the rest is history. He became the largemouth bass world record holder with a behemoth that weighed 22 pounds, 4 ounces, a record that has yet to be officially broken. Ever since that fateful day, untold numbers of bass fishermen have dreamed about the possibility of breaking "the"



What do these three fish tales have in common? In each case, the Florida largemouth bass (*Micropterus salmoides floridanus*) is involved to some degree. The largemouth bass is comprised of two subspecies, the northern bass and the Florida bass. The pure northern bass occurs across the northern tier of states from New England through the Midwest. The pure Florida bass

Left: C. C. McCotter, editor-in-chief of *Woods and Water* magazine and professional fishing guide, along with Darrell Kennedy (above) who operates the Lake Orange Fishing Center in Orange County, know that big bass can mean big bucks for Virginia businesses that rely on well-managed natural resources.

tested genetically, most presume that it was a Florida intergrade. In 1986 and 1987, Briery Creek Lake was stocked with a mix of Florida and northern largemouth bass at a 3:1 ratio. Biologists theorize that several factors worked to benefit the bass population in Briery Creek Lake. The first was the "new lake" effect. Whenever a reservoir is filled, there is an initial boom in the fishery. The early year classes of fish have an abundance of food and available habitat at their disposal with very little competition, and they often experience phenomenal growth. The boom undoubtedly occurred at Briery Creek Lake and helps explain many early trophy fish that were landed. Secondly, Briery Creek Lake is filled with a complex assortment of habitat that provides everything the largemouth population needs. Finally, the bass seem to be benefiting from "good" genes since the number of Virginia Angler Awards (formerly called "citations") continues to be very high. A 16 pound, 2 ounce largemouth bass was caught as recently as April, 2002.

Many Virginia anglers are interested in Florida bass because of the success of Briery Creek Lake. Some may be aware of the highly touted "ShareLunker Program" in Texas. Others may have heard about the string of monster bass that have been caught in California. Both Texas and California have used Florida bass in their stocking programs to develop trophy fisheries. Several other states have tried using Florida bass to either supplement existing populations or to influence the genetic make-up of native bass fisheries. Notable examples of these include Tennessee, Louisiana and Oklahoma. So where do we stand in Virginia? What is the genetic make-up of the most popular bass waters in the state? Would stocking Florida bass in our waters increase the numbers of trophy fish?

The Virginia Department of Game and Inland Fisheries and Virginia Tech have teamed up to answer these questions. Fisheries biologists with the Department and re-



Lake Anna is one of Virginia's best bets for catching largemouth bass year-round. The lake has a great reputation for its excellent bass fishing. In fact, it's so well known that it draws anglers and fishing tournaments from all over the East Coast. For years fishing expert for Anna Point Marina, Dave Fauntleroy, has been making his living from catching big bass and educating others on how to catch that next trophy largemouth.

searchers from Virginia Tech have just finished the first phase of a project that will ultimately characterize the genetic make-up of the most important largemouth bass fisheries in Virginia. During 2001, largemouth bass from 15 different waters across the Commonwealth were collected for genetic evaluation. This shotgun approach for sampling covered virtually all geographic regions in the



Florida and northern genes. An individual fish may have genetic material from both the northern bass and Florida bass, just like a child has characteristics of both the mother's family and the father's family.

This is also true at the population level. An individual population may be weighted much heavier towards either the northern bass subspecies or the Florida bass subspecies. The degree to which Virginia populations were weighted towards Florida bass varied

widely across the state. The proportions of genetic material originating from Florida bass ranged from a low of 32 percent to a high of 68 percent in the 15 waters analyzed. In Briery Creek Lake, Virginia's premier trophy largemouth bass fishery, 62 percent of the genetic material was attributable to the Florida subspecies. For both Smith Mountain Lake and Lake Anna, the percent contribution of Florida genes was 52 percent. On the other hand, Claytor Lake and South Holston Reservoir had Florida gene percentages of only 38 percent and 39 percent, respectively. There appears to be no particular pattern to the distribution of populations with high percentages of Florida genes. This is probably due to the vast amount of stocking that has taken place over the years.

Bass fishermen may wonder, why not just stock more Florida bass in all Virginia's waters? Research has indicated that Florida bass may not perform well in colder climates. For example, starting in 1972, officials in Oklahoma stocked Florida bass into many of its reservoirs hoping that this would increase the number of trophy bass to the level seen in Texas. The Florida bass seemed to do well below Interstate 40 but not so well north of there, where temperatures dip lower. Tennessee has stocked Florida bass in many of its impoundments, and just as in Oklahoma, suc-

state and most of the major bass waters.

Tissue samples from bass of all ages, sizes and both sexes were examined using techniques called electrophoresis and histochemical staining. This intricate examination of the fish's DNA enabled scientists to decipher the genetic make-up of each population. The analysis was completed in 2002 and yielded some very interesting results.

Genetic material from both northern and Florida subspecies were present in all populations surveyed. This suggests that Virginia is within the intergrade zone, with bass populations containing a mix of both

The management of this important game fish by fisheries biologists is still a learning and growing process. Illustration by Spike Knuth.

cess varied with latitude. This seems to be the trend in several states that have tried large-scale stockings of Florida bass. Largemouth that naturally occur in Virginia are well adapted to this climate and do just fine in the long, cold winters that we occasionally experience. This may be due to the fact that these fish are intergrades of northern and Florida bass with just the right genetic make-up to handle Virginia's weather.

Another possible management strategy is stocking a large reservoir with Florida bass to shift the existing population genetically. Unfortunately, this could only be accomplished by stocking massive numbers of fish annually for a number of years, a very expensive undertaking that would have no guarantee of success. Even so, some southern states are trying it. For example, Louisiana has massively stocked Florida bass to infuse Florida genes. Fry, fingerlings and sub-adult fish have all been stocked to develop a "blended fishery" of native and Florida bass. Only time will tell whether this is successful or not. This technique may be a much more attractive option for new impoundments where there is not an existing bass population that would be competing with the Florida bass.

In Virginia, it would be of little benefit to stock Florida bass into waters where this sub-specie is already well represented genetically. For example, the bass population in the Chickahominy River is already dominated by genetic material from the Florida bass (57 percent). Stocking more Florida bass there would probably accomplish little. Although stocking Florida bass may be appropriate in certain situations, one needs to remember that there is more to producing trophy bass than just genetics. Habitat, which includes everything from water quality to structure, is vital.

Forage, the optimum food that largemouth bass need to grow to trophy sizes, is critical, as is the length of the growing season. Proper regulations are also an important component. Why is there such a variety of regulations across the state for largemouth bass, as well as other species? It's because biologists continually evaluate regulations to determine if adjustments are needed to improve the size structure of a population or optimize catch rates. A whole myriad of factors, including genetics, can contribute to growing a bass big enough to bend your rod double.

There is still much to learn about the impact of genetics on trophy largemouth bass fisheries. The next phase of our research will involve analyzing bass populations from additional waters to get a more complete picture of the distribution of Florida bass genetic material in Virginia. In addition, biologists hope to identify specific factors that may cause certain waters to produce trophy bass consistently, year after year. With this information, management strategies can be developed that improve bass populations and ultimately improve fishing success for anglers. Fisheries management has come a long way since George Perry caught his world record largemouth in 1932. But one thing hasn't changed, the dream of landing a trophy largemouth bass. Our goal, with this research, is to help make that dream become a reality. □

Bill Kittrell is a regional fisheries manager with the Virginia Department of Game and Inland Fisheries. He wishes to extend a special thanks to Dr. Eric Hallerman and Katherine Finne with the Department of Fisheries and Wildlife Sciences at Virginia Tech for all their assistance. He also acknowledges the efforts of Tom Gunter, George Palmer, the Fish Division's largemouth bass committee and the many fisheries biologists in the Department who contributed to this research.

It's All in The Genes



The following table lists the percentages of Florida bass genetic material found in largemouth bass populations from various public fishing waters in Virginia.

Largemouth Bass Population	Percent Florida Bass Genes
Lake Robertson	67.9
Briery Creek Lake	61.7
Chickahominy River	56.6
Nottoway River	52.7
Smith Mountain Lake	52.3
Lake Anna	52.2
Lake Chesdin	48.3
South Holston Reservoir	39.1
Shenandoah River	38.4
Claytor Lake	37.9
John W. Flannagan Res.	35.5
Occoquan Reservoir	32.0
*John H. Kerr Reservoir (Buggs Island Lake)	—

* Largemouth bass from Buggs Island Lake are scheduled to be tested this year.

Gone Squirrelly

by Carol A. Heiser
illustrations by Spike Knuth

Do you recall the TV commercial which shows a squirrel in the middle of the road? A fast-moving car approaches around a curve, apparently headed towards the squirrel. At the last minute, however, the squirrel scampers out of the way. The unfortunate car meets its demise by trying to avoid the animal and careening out of control offscreen. With obvious delight, the squirrel does a high-five with its buddy nearby, clearly pleased that their ruse has "won" them a road battle with the humans. Ouch!

Fortunately, real squirrels are not deliberately mischievous (although there may be readers who believe that their own stories prove otherwise). Squirrels indeed have the exasperating habit of scurrying back and forth in front of our

cars; but this is a survival strategy meant to confuse a potential predator and buy some escape time, not to be naughty. When a squirrel hangs from its hind claws out on a limb and performs contortions like Houdini to reach your bird feeder, it's merely exhibiting an efficiency of body design and dexterous foraging behavior, not roguish thievery. In truth, squirrels are energetic, acrobatic, and yes—even enigmatic—creatures that play an important role in forest ecology.

All in the Family

There are six squirrel species that occur in Virginia, and all of them are in the same family, Sciuridae. The root of this name comes from the Greek word *skiouro*, which means "he who sits in the shadow of his tail." The gray squirrel (*Sciurus carolinensis*), the eastern chipmunk (*Tamias striatus*) and the southern flying squirrel (*Glaucomys volans*) are all common species that occur throughout Virginia. The red squirrel (*Tamiasciurus hudsonicus*) and the fox squirrel (*Sciurus niger*) frequent the western half of the state. The Delmarva fox squirrel (*Sciurus niger cinereus*) is a subspecies of the fox squirrel and is found only on the Eastern Shore. Both the Delmarva fox and the northern flying squirrel (*Glaucomys sabrinus*) are listed as federal and state endangered species. Northern flying squirrels are found only at high elevation sites dominated by spruce-fir forests.

There are a few aspects of life history that all of the squirrel species have in common. Like its relative the groundhog, which is in the same family, a squirrel is a rodent whose front teeth are constantly





Left: The southern flying squirrel (*Glaucomys volans*) is rarely seen during daylight hours and is active at night. Right: Common throughout Virginia, the gray squirrel (*Sciurus carolinensis*) adapts to just about any kind of habitat.

growing, and the animal must, therefore, gnaw frequently to keep the teeth sharp and chisel-like. Hence, a squirrel has a characteristic pointy face and a habit of chewing and burrowing which gives them a maligned reputation as a scoundrel or pest.

Squirrels tend to breed once or twice a year, usually in midwinter or late spring, and they give birth between late February and April or between July and August. Their young are born without fur and with eyes sealed closed for about a month, completely helpless and dependent on the parents for survival. Squirrels also seek out old woodpecker holes or other den sites in dead trees, either for protection during the winter months or to raise their young.

A Squirrel Who's Who

Gray squirrels are not very territorial and tend to congregate in groups, particularly dur-

ing winter. Their home range is about one to 20 acres, and daily movements usually occur within 200 yards of the nest. These squirrels are active year round and have two main feeding periods during the day, generally about three hours after sunrise and three hours before sunset. By comparison, a fox squirrel is more solitary. It is active during the middle of the day in a home territory that ranges from 10 to 40 acres.

Both gray and fox squirrels use three types of nests. In summer and winter they may build a leaf nest or "drey." A winter drey is waterproof, constructed of an outer layer of twigs and a soft inner lining of moss, fur or feathers. A summer drey is usually an assemblage of twigs and leaves set on open branches like a large saucer. Tree dens are used when available, anywhere from 4 to 70 feet above the ground.

Whereas gray and fox squirrels frequent

primarily deciduous forests, the red squirrel is a denizen of ever-green stands at higher elevations. Red squirrels are active during the day and often at dawn and dusk; they are territorial

and will especially protect their food supply. While gray and fox squirrels consume a prevalence of nuts, buds and fruits, red squirrels feed heavily on the seeds of pine cones and will seek out beetle larvae and moth pupae beneath loose tree bark. Reds also relish many mushroom species, apparently resistant to the toxins, and will often store fungi in the crotches of tree limbs.

Flying squirrels don't actually fly, they glide using a flap of skin between their wrists and ankles, leaping up to 150 feet at a stretch within a home range of four acres. The southern flying squirrel is more carnivorous than other squirrels and will often consume bird eggs and insects, in addition to the usual nuts and flowers. They store nuts and seeds in the crevices of tree bark and in the forks of branches. Northern fly-

ing squirrels feed almost exclusively on underground fungi. Unlike other squirrel species, flying squirrels are nocturnal and have large eyes adapted for the dark. While you're asleep at night, this animal is probably dining at your bird feeder.

Fox squirrels, which are more solitary than grays, can attain a size of up to 3 pounds and are the largest of the squirrel group—at least 20 percent larger than grays, which average 1 to 2 pounds. Red squirrels are only half the size of gray squirrels, and the flying squirrel is the smallest of them all.

Forest Helpers

If you've ever watched a squirrel bury nuts in the yard for days on end, you've probably wondered how it can possibly re-

member where all those nuts are. The answer: in most cases, it doesn't. A squirrel relies on a highly developed sense of smell to locate buried food, and often the food it finds has been buried by another squirrel. Finding the same nuts it has buried itself isn't as relevant as finding something nutritious to eat when hunger beckons during the cold throes of winter.

As you might have surmised, not all of the nuts that squirrels bury are dug up and eaten later. In fact, up to 74 percent of acorns stored by gray squirrels are never recovered, and they may bury at least 1,000 nuts each year. All of those un-retrieved acorns account for the second-growth regeneration which keeps oak trees well-established in our eastern forests.

There is a direct, complex relationship between squirrel foraging behavior and oak tree production. Squirrels—and to some extent blue jays and grackles—are responsible for perpetuating red oak and white oak tree establishment through a natural phenom-

enon known as *dispersal*, the mechanism by which a plant species distributes its seeds and moves into or colonizes new areas. When a squirrel caches or stores nuts below the leaf litter, it effectively ensures that the nut will germinate in good growing conditions. Even more fascinating is evidence that some oak species have evolved acorns adapted to survive the squirrels' dispersal methods. Although other animals like deer, turkeys and bears feed heavily on acorns, they do not store the nuts and, therefore, convey no dispersal benefit.

Picky Eaters

Squirrels consume food at a greater rate during late summer and autumn to add body fat in preparation for winter. If the acorn crop of the previous year was abundant, the number of squirrels in a population will increase during the current year, as they benefit from improved health, vigor and reproductive success. Well-fed squirrels are less stressed and in better physical condition to produce more young than when the food supply is limited. Also, squirrels that are two years or older will usually have multiple litters, compared to squirrels which are only one year old and breeding for the first time.

When a squirrel selects acorns off the forest floor, it is usually looking for nuts with the highest fat content, because fat will provide the energy that the animal needs to keep warm during cold weather. Red oak acorns have a high fat content: 18 to 25 percent of dry weight. White oak acorns are only 5 to 10 percent fat. Why, then, would a squirrel ever bother to eat white oak acorns at all? That depends on a number of factors: the types of oak species present in a forest; the relative abundance of acorns they produce; the time of year that the acorns will germinate; and the presence or absence of a bitter ingredient called tannin.

Squirrels are usually opportunistic feeders, which means they'll take advantage of a food source whenever an opportunity presents itself. In addition to tree nuts, squirrels will eat plant



The Delmarva fox squirrel (*Sciurus niger cinereus*) has a very limited range and is found in limited numbers in Northampton County, and was listed as a state endangered species in 1989.



buds, new leaves and twigs, flowers, insect larvae, mushrooms and other fungi, and an occasional bird egg. When several oak species are present within a squirrel's home range, the squirrel will eat predominantly the fatty acorns it can find. However, if there is an *abundance* of lower energy acorns available, the squirrel will eat more of those.

Also, squirrels will often select acorns with the least amount of tannin, even if the nut has less fat content. Tannin is a water-soluble acid produced in oak leaves and other plant parts as a natural defense mechanism to help ward off insect attacks. It's what people use to tan animal hides, and it's what gives water a brown color when dead leaves accumulate in a stream. Squirrels try to steer clear of tannin because the chemical imparts a bitter taste.

But there's more to the phenomenon than that. Red oak acorns contain six to 10 percent tannin and overwinter in a dormant state on the ground before germinating the following spring. In contrast, white oak acorns have less than two percent tannin and sprout right after they fall in the autumn. Therefore, when presented with an assortment of white oak and red oak acorns, squirrels make some uncanny choices. They usually carry the nuts from white oaks a short distance and eat them right away, while they are more likely to carry red oak nuts a further distance and cache or store them.

However, if a squirrel decides to store a white oak acorn rather than eat it on the spot,

the animal must somehow kill the seed before burying it. Otherwise, the nut will sprout right away, develop an unpalatable taproot, and lose its nutritional value. In this instance, the squirrel uses its front incisor teeth to scrape the bottom of the acorn and kill the embryo located there. The acorn is now rendered useless for new growth but is a packaged meal to the squirrel, convenient for future use.

Red oak acorns are a different story. Sometimes a squirrel chooses not to store a red oak nut but to eat it in the fall. The animal pries off the cap, bites off the top end, and eats only about 30 percent to 60 percent of the kernel, leaving the bottom end of the nut—where the tannins and the embryo are located—intact. It is therefore believed that the presence of tannins in the bottom of a red oak acorn is an adaptation that protects the embryo, ensuring that there's still enough of the seed left to germinate and grow next spring. Meanwhile, the squirrel has reaped the reward of a high-fat meal. Here it's a win-win scenario.


Squirrels perform one other service to trees. If an acorn has been infested by a beetle larva, called a weevil, the squirrel will simply eat the weevil for a bit of high-protein and discard the nut, only caching acorns which are non-infested. Interestingly enough, weevils tend to be lo-

Fox squirrels (*Sciurus niger*) are slightly larger than gray squirrels and are found in the mountains of western Virginia.

cated—you guessed it—in the top of an acorn. [Source of statistics: "What are Squirrels Hiding?", *Natural History*, vol. 103, no. 10, Oct. 1994.]

Did You Know?

If you see a curious-looking, "lumpy squirrel" in your yard, it's likely that the squirrel has been parasitized by botfly larvae. This condition would generally be seen in summer when botflies are actively laying eggs on leaves and other materials. When the fly larvae hatch, they are picked up by a squirrel as the animal brushes against leaves, much the same way an animal would pick up a tick. Each fly larva—also called a grub or bot—burrows under the hide of the squirrel and forms a swelling called a warble. The larvae are usually not life threatening, as long as the animal has fewer than five or six warbles.



Flying squirrels don't actually fly, but glide through the air by using a loose fold of haired skin connected from the wrist to the ankle.

Tree squirrel botfly larvae infest gray squirrels, fox squirrels, red squirrels and the eastern chipmunk. Every species of botfly is adapted to a particular host animal. For example, a rabbit botfly is specific to rabbits, a sheep botfly to sheep, and so forth. There is even a human botfly, but that species occurs in Mexico and South America, not in the U.S.

Learning More...


Squirrel Almanac: A Guide to North American Tree Squirrels <http://spot.colorado.edu/~halloran/sqrl.html>—a Web site developed by Peg Halloran, PhD at the University of Colorado, Boulder (informative fact sheets, links, and answers to common questions).

Squirrels: A Wildlife Handbook, by Kim Long (Johnson Nature Series); c. (an illustrated handbook and folklore collection of all North American species).

Nuts About Squirrels: A Guide to Coexisting With—and Even Appreciating—Your Bushy-Tailed Friends, by Richard E. Mallery; c. 2000 (a humorous book with practical problem-solving for bird feeder enthusiasts).

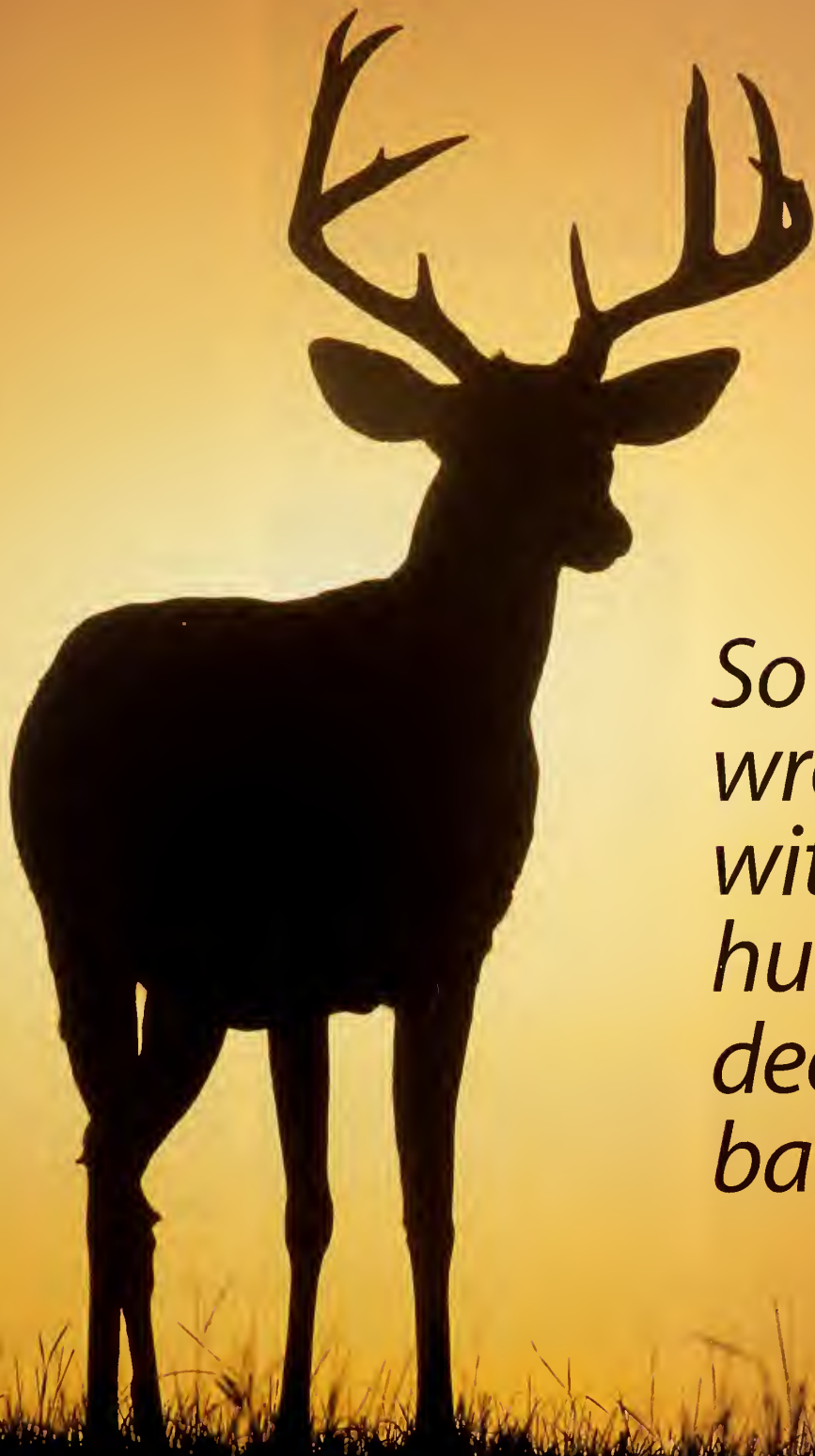
North American Tree Squirrels, by Michael A. Steele and John L. Koprowski; c. (accurate information based on research that details the lives of gray and fox squirrels). □

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The red squirrel (*Tamiasciurus hudsonicus*) is the smallest of the tree squirrels and is found in the higher elevations of Southwest Virginia.

The Baiting Game



*So what's
wrong
with
hunting
deer with
bait?*



by Bruce A. Lemmert,
Virginia Game Warden

When I came into close proximity to the baited tree stand, the occupant indignantly said, "This is private property and you're trespassing." This person's demeanor changed abruptly when I opened my camouflage coat to reveal my game warden uniform shirt and badge of authority. "Virginia Game Warden. Please lower down your equipment, and come on down. I need to talk to you."

Each year across the expanse of Virginia, some individuals count on using bait to gain an edge in killing deer. Of course, baiting deer is illegal in Virginia. There are various and sundry rationalizations for using bait to kill deer. Most people who use bait to shoot deer are looking for an advantage and are simply rolling the dice, thinking they will not be challenged by a game warden.

An often-used excuse given by a baiter when confronted by a game warden is that other states allow

Most people agree that hunting over bait is not only non-sporting, but it is unethical. The picture below was taken in South Hill, and was evidence in a baiting case. A combination of apples, salt, minerals and corn were placed to lure in deer.



baiting, so why does it have to be a big deal in Virginia. By inference, the culprit attempts to justify their illegal actions by the suggestion that baiting deer should simply be an ethical consideration, and not a legality. Additionally, the baiter implies that since other states allow hunting over bait for deer, then there must not be biological reasons for preventing the use of bait to hunt deer.

The use of bait to hunt whitetail deer is indeed intertwined with ethics, biology, the law and history. There is no question that bait has historically been used in Virginia to bag deer. Prior to the 20th century, hunting was pretty much a utilitarian effort. The focus was meat. During the transition from the 19th to the 20th centuries, a code of sportsmanship was developing among those who hunted and fished. Fish and wildlife had been depleted to dangerously low levels by unregulated take all across the continent. Here in Virginia, the beaver, elk, buffalo, fisher, mountain lion, passenger pigeon, southern fox squirrel and the timber wolf were all gone by the early 1900s. The black bear, whitetail deer, and turkey were extirpated in many regions of the state but were still hanging on. The choice was obvious and simple. Regulate hunting of wildlife or there simply will not be any wildlife to hunt.

Those that initially subscribed to a "sportsman's code" professed that game must be given a sporting chance. Wildlife is more than a commodity. The kill or capture of wildlife by any means possible was not acceptable. A "true hunter" should demonstrate skill, savvy and woodsmanship in bagging game. Certain methods and tools were deemed un-sporting and eventually illegal. Seasons in which game could be taken were set and eventually enforced. Commercialization of wildlife was outlawed. Fish and wildlife agencies were created. The sportsmen at the turn of the 20th century are, for all practical purposes, responsible for much of the wildlife success we enjoy today.

During the early 1900s, baiting came increasingly under scrutiny as a questionable sporting method to kill wildlife. Ethical considerations were at the forefront of the first baiting laws. Was it a sporting proposi-

"Virginia Game Warden. Please lower down your equipment, and come on down. I need to talk to you."



Granulated salt, salt blocks and mineral blocks are commonly used around livestock, but become illegal if used to attract wildlife to hunt.



This photograph, which was used as evidence in a baiting case, shows a pile of ripe, red apples just below a tree stand.

tion for game to be killed at an artificial feeding site? It takes time to acclimate game to a site. Once game is acclimated to the site, the question was being asked, "Is it a sporting proposition to take wildlife by this method?"

The practice of baiting game begged a second question, "Is it fair?" This fairness issue was couched in the context of, "Is it fair to other hunters?"; especially those hunters who consider the practice non-sporting, and decide not to bait for ethical considerations. A person hunting deer on a property not baited would obviously feel disadvantaged if people on the adjoining property were baiting deer. The baiting debate was, therefore, two pronged, with both arguments related to fairness or ethics. Does baiting meet the test of sportsmanship with respect to killing wildlife? Is baiting fair to those hunters who decide not to bait? Both questions were very pertinent to the democratic process of dealing with a public resource.

When the fledgling Virginia Department of Game and Inland Fisheries was created in 1916, the practice of using bait to take wildlife was evidently not universally condemned. Other methods and tools had been banned outright. For instance, it was deemed illegal to "shine, or spotlight deer." Small can-

nons, called punt guns, were made illegal for taking waterfowl. Nets could not be used to take turkeys. And, dynamite and other explosives could not be used as a fishing method. By the mid-1920s it became illegal in Virginia to take turkeys with the aid of bait. In 1935 the federal government outlawed the use of corn in the duck marsh and Virginia adopted the baiting statute, which stands virtually unchanged today. This law banned the use of bait for taking any wildlife. The existing law reads as follows:

"It shall be unlawful to occupy any baited blind or other baited place for the purpose of taking or attempting to take any wild bird or wild animal or to put out bait or salt for any wild bird or wild animal for the purpose of taking or killing them. However, this shall not apply to baiting nuisance species of ani-



This baiting site is not only illegal, but it increases the likelihood of spreading infections and transmitting diseases.

imals and birds, or to baiting traps for the purpose of taking fur-bearing animals that may lawfully be captured."

It is important here to clarify what baiting is, and is not. As straightforward as the law reads, we still get questions.

Question: What is the difference between feeding wildlife and baiting?

Answer: Feeding involves putting out food for wildlife with no intent to kill or take the wildlife whereas baiting includes this intent to kill or take wildlife. It is important to note here that wildlife professionals discourage the feeding of deer and it is illegal to feed deer in Virginia on National Forest or department-owned lands.

Question: Are attractant scents for deer considered bait?

Answer: No, scents are not ingested by the mouth or tongue as a food or salt.

Question: Is it all right to hunt deer over a planted food plot, or at an apple orchard?

Answer: Yes, as long as additional food, not grown on site, is not brought in and the existing food grown on site is not artificially concentrated for the purpose of taking wildlife. It is acceptable wildlife management to train the soil to provide enhanced food and cover for wildlife. It may be helpful here to think of the cycle of soil, oak tree, acorn, deer, Indian. The oak tree, the acorn, and deer are a product of the soil and hence the Indian also becomes of the soil. Another helpful illustration shows it quite acceptable for the hunter to hunt at the apple



This illegal food trough was found in Loudoun County.

tree that is naturally dropping apples. If, however, the hunter gathers the apples from several trees and places them under one tree for the purpose of hunting there, then that could be construed as baiting. Likewise, if the hunter purchases apples from off site, and places them under his apple tree, and subsequently hunts over those apples, then that also would of course be considered baiting. If in doubt, ask, "Is the food in question tied to this soil?" And, "Has the food in question been artificially concentrated by man for the purpose of taking deer?" If you ask both questions and the answer is "yes" to the first question, and "no" to the second question, then you are okay.

Question: What role does salt play with respect to deer?

Answer: A wildlife management professor at Virginia Tech, many years ago, said that a salt lick is to deer what a beer joint is to people. They apparently don't need it, but will flock to it if it is provided. Yes, it is illegal to hunt over salt.

Question: Would hunting over a so-called mineral block be legal?

Answer: No, the mineral blocks are ingested by the mouth and tongue and would be considered bait. Most also have a salt or other food derivative to induce ingestion. A Louisiana study on the benefits of "mineral blocks" on free ranging deer indicated that there were no noticeable benefits. The whitetail's varied and diverse natural diet normally provides for all minerals and vitamins needed. Like other feeding and baiting of deer, mineral blocks tend to concentrate deer unnaturally in one area, which can in turn create a disease dissemination conduit.

This leads us to biology. The proponents of baiting, mostly from states where baiting is legal, have for the last many years been pooh-poohing the biological concerns of feeding or baiting deer. Then, within the past couple of years, Chronic Wasting Disease (CWD) has been diagnosed in deer in several states. The disease has affected the deer hunting world with the impact of a terrorist



Top to bottom: Wardens come across all sorts of illegal methods for baiting that include everything from spreading out apples and corn, to building elaborate feeders that automatically distribute animal feed.

strike. The results were and remain insidious. The disease ultimately results in death of the deer. CWD is spread from deer to deer. Artificial feeding increases the likelihood of

contact and contact increases the likelihood of disease transmission. This has required some introspection and some serious soul searching by wildlife managers and deer hunters alike. Why did this happen? Could it have been prevented? What do we do to get rid of CWD?

It is important here to point out that CWD has not been detected in Virginia. Game wardens collected 1,114 deer heads last fall from road and hunter-killed deer. Department biologists processed the heads and the Southeastern Cooperative Wildlife Disease Study at the Veterinary College at the University of Georgia analyzed them for CWD. All tests on Virginia deer were negative. The word of the day, with respect to CWD and other deer diseases is prevention.

Although it was CWD that gained national attention when it was detected east of the Mississippi River in Wisconsin whitetails, Bovine tuberculosis (TB) was detected in Michigan deer as early as 1994. TB can be injurious to deer, cattle, and humans. The financial consideration for individual states losing "TB free status" for cattle is immense. It is estimated that Michigan's livestock producers, public health and agriculture agencies, and wildlife managers, annually spend more than \$48 million on surveillance and management of TB. This is more than Virginia's entire annual budget for the Virginia Department of Game and Inland Fisheries. Evidence suggests that wildlife may be serving as reservoirs of the TB in Michigan. TB is a bacterial disease of the respiratory system and close contact of deer at feeding stations has allowed the disease to spread quickly. Both Wisconsin and Michigan have been allowing feeding and baiting of deer and restrictions of these practices are being put into place.

Virginia deer disease management is in comparatively good shape. This is not an accident. Former Department deer biologist, Jack Gwynn, has been known to rail long and hard against the maleficent "three F's of deer management";

feeding, fencing, & farming. Don't feed deer. Don't fence or enclose deer. Don't farm deer, or allow them to be traded as a commercial commodity. Jack spent 35 years serving the Commonwealth and retired in 1991. So, the fact that Virginia's problems with deer have been relatively minor, is a tribute to Gwynn's knowledge, foresight, and gumption. Matt Knox, the current Department deer biologist, has capably picked up where Jack left off.

There are certain instances where wildlife professionals may deem feeding of deer to be acceptable. However, in general, artificial feeding of deer is biologically unsound. The practice changes the natural behavior of deer and circumvents the very evolutionary makeup of the animal. Any observant deer hunter can tell you how a whitetail feeds. The deer nips a plant and moves...nips and moves. The head of the deer comes up to detect sight, sound and smell. These are the instincts and mannerisms of a prey animal honed over the ages. The deer may seem to be lingering under the white oak tree during a good acorn drop, but even this is fleeting. Mother Nature ebbs and flows. One food source for deer flourishes, while another withers. The whitetail is an opportunist. The diet of a free-ranging deer varies by day and by season. Once the deer is fed out, the several stomach chambers of a ruminant do their job as the whitetail relaxes in concealment, moving little to not attract the attention of a predator.

Indeed, these mannerisms make the whitetail America's premiere game animal. The very makeup of the whitetail deer has protected it across the eons from not only predation but also from disease. These very traits of the whitetail, along with predation or harvest, have also served to protect and perpetuate the flora from which the deer depends. In artificial feeding and baiting situations, the native vegetation surrounding the bait site is often degraded. This can negatively affect forest regeneration, natural plant diversity, and other wildlife. Deer should not be managed in a vacuum.

There is simply no substitute for natural, healthy habitat. Artificial feeding and baiting of deer exploits the animal's opportunistic feeding tendencies to the detriment of the wild integrity of the animal and its surroundings.

As a Virginia game warden, I deal with both the hunting and non-hunting public. Believe me, there is little sympathy from either group with respect to hunting deer with bait. Both hunters and non-hunters

feeding and baiting deer are now recognized. Massive support for this law by the general public is basically still based primarily on a gut reaction of fairness or ethics. Thinking hunters recognize all the reasons for not baiting. Possibly, just possibly, the modern hunter opposes the feeding and baiting of deer because of the added element of artificiality it adds to an increasingly artificial world. Today's hunter, as I know him/her, hunts as much for suste-



©Bill Lea

Ethics and the concept of fair chase must remain a priority for those who are devoted to passing along the cherished sport of hunting.

alike will "call in this law violation," with little compunction. It would not be unusual for an information call on a baiting violation to end with, "I hope you catch this cheater."

The Virginia law against baiting deer and other wildlife has served us well for many decades. The original intent behind the law was obviously ethics. Biological reasons for not

nance of the soul, as for sustenance of the body. Hunters in the 21st century have a vested interest in "keeping it wild."

You ask what happened to the previously mentioned man who occupied the baited tree stand? He came to court. He was contrite. He paid his fine. □

Bruce Lemmert has been a Virginia game warden assigned to Loudoun County since 1989 and is actively involved in promoting hunting as a safe and ethical outdoor activity.



Changing Times

by Denny Quaiff

When I look back on my first deer hunting experience in the fall of 1958, it is amazing how things have changed. Although I had been along many times before to watch, this was my first season carrying my own gun as a licensed hunter. My father and uncle provided hands-on gun safety and hunter education training to a young student who was eager to learn. My mother said that I was obsessed with hunting from a very early age and all but worried my father to death until he agreed to let me join in. Having the opportunity to be with the men, taking an active part

Hunters throughout the Old Dominion have experienced many changes since the 1950s. Looking back over this time period is a lighthearted appreciation of a generation that has truly witnessed changing times!

in the hunt was almost more than this ten-year old could stand.

My first gun was a brand new single barrel .410 J. C. Higgins from Sears and Roebuck that my father had given me for my birthday. The little shotgun was loaded with a rifle slug and ready for the hunt. Deer hunters from that era were very often limited to one gun that was used for all game hunted. The semi-automatic Browning and Remington models were becoming popular. Winchester's Model 12 pump had been around for a long time and was another old favorite found in deer camps throughout the Old Dominion. I remember seeing many of the old-timers carrying side-by-side

double barrels. These scatterguns were usually loaded with buckshot in the full choke barrel for deer and BB's in the modified barrel for turkeys.

Although I did not know of any bowhunters at that time, Virginia's first special archery season was established in 1954. The Virginia Department of Game and Inland Fisheries records show that 42 deer were taken with archery tackle that year. This primitive sport was really starting to grow and the compound bow had just been invented. Fred Bear, the godfather of bow hunting who was years ahead of his time, was soon to be seen on the American Sportsman TV show meeting the challenge head on. This master bowhunter, who pursued big game all over the world with bow and arrow, excited hunters with his skills and was rightly credited with much of the early interest in the sport.

Most of the hunters wore their everyday work duds and the use of hunter blaze orange was unknown. Camouflage clothing was a rare sight to see in the deer woods. The first camo style came home with the boys from Germany after the second World War. The first type that I recall wearing was the military pattern from Vietnam that became popular back in the 1960s and Jim Crumley's Trebark design was yet to be discovered.

Youth Hunter Safety classes were unheard of, and the special youth hunting license was years away from being passed by the legislature. Most young hunters learned their safe hunting practices from a family member or neighbor who would donate time to an attracted youngster who expressed interest in wildlife and hunting. Most of us baby boomers from this generation re-

ceived this hands-on training from men who had served for Uncle Sam in WWII and understood the importance of gun safety.

Hunting from tree stands was another new concept when I started. Hunters were just starting to figure out the advantages of hunting whitetails above the ground. More and more deer hunters were build-



ing permanent wooden tree stands at their favorite deer crossing. The explosion of the commercial tree stand industry was still to come with the introduction of the first portable climbing tree stand manufactured by Baker. Safety belts were not com-

monly used and tree stand safety was still on the drawing board. Hunters were very often learning some hard lessons while experimenting with the new novelty of tree stand hunting that would soon spread throughout the hunting community like wildfire.

During this time period, hound hunting was the main focus for taking deer in eastern Virginia. With a small deer population that was in the early stages of growth, the goal of our hunting club was to run one deer in the morning and one in the afternoon. It was essential to have a good cold-nose dog in order to jump deer. I can recall riding the logging roads with the elders of the club looking for a fresh deer track to put the dogs on. My uncle was a houndsman, and he taught me a lot about hunting with dogs and caring for them. He had made arrangements with the cafeteria manager of Beulah Elementary School for us to pick-up the table scraps from the school lunch to help feed our dogs. We also got fresh meat scraps from a butcher at one of the local grocery stores, which we cooked in a big pot. This was a big help in cutting the cost of feeding a pack of walkers and black and tan hounds during tight times—a practice that I am sure would not be an acceptable policy with the County Health Department today.



Right: Young hunters who grew up in rural surroundings during the 1950s and 60s knew hunting as a way of life. The author (left) and friends enjoying a Thanksgiving Day hunt in the old days. Above: Charlie Lester, from Chesterfield County, never missed opening day of deer hunting season and 1959 was no exception.

Hunting leases and club dues were much different in those days. Hunters usually gathered at a country store or maybe a landowner's house. Our hunting party hunted the Second Branch area of Chesterfield County. I remember meeting for lunch in an area that was across from what is today the Clover Hill Farms subdivision. Back then this entire section of the county was countryside. Today a large part of this section has been developed for residential housing with limited hunting access available.

The cost of running a hunt club was much less than it is today with very little property posted to hunters. Most of the landowners and their families were locals from the old school who supported hunting and believed in living off the land. The hunting party would make sure that the landowners shared in the bounty and very often provided labor from the group in return for hunting rights. This would often result in minimal cost with the hunting party merely passing the hat to collect money for their annual hunting expenses.

The seasonal bag limit when I started hunting was two antlered bucks. With a deer herd that was all but nonexistent only a few years before, doe hunting was an unacceptable practice among a large majority of deer hunters all across the state. The Game Commission's Deer Management Plan was structured to increase the whitetail population in all corners of the Old Dominion. Statewide harvest records indicate that 26,841 deer were taken during the 1958 season.

My first memory of any Game Commission official was Warden Joe Bellamy, who started with the Virginia Game Commission in 1954. Joe became well known throughout the hunting community carrying out his duties for \$150 a month to start. His reputation as a tough, but fair conservation officer was most fitting and widely recognized. I can remember Joe stopping to check hunting licenses and sharing stories with the hunters. Warden Bellamy retired in 1991 with the rank of Captain.

Captain Joe's commitment and dedication deserves a great deal of the credit for the comeback of the whitetail deer during those early restoration years in Chesterfield County.

When I look at the 2002/2003 deer season totals in Virginia and see where hunters harvested 213,023 whitetails, it is overwhelming to review all of the changes that I have witnessed over the past 45 years. With a two deer a day bag limit and some counties allowing up to six deer a season, deer hunters today have many more opportunities than in years gone by.



Game Warden Joe Bellamy was well known for his endless pursuits against wildlife poachers. Here Warden Bellamy displays evidence from two deer illegally shot by spotlighters in the early 1960s. Below: Education and safety continue to play a major role in introducing youngsters to the sport of hunting.

During the special archery and muzzleloader seasons, hunters who accept these challenges can take advantage of countless days afield. Last year over 60,000 archers, including crossbow hunters, harvested 18,470 deer. Black powder hunters took 48,468 whitetails with over 113,000 muzzleloader licenses sold in the Commonwealth.

The modern day bowhunter and muzzleloading enthusiast has the best equipment made for man. Compound bows with 60 to 70 percent let-off are a far cry from the primitive long bow that Fred Bear used. Our modern day archery tackle industrialists continue to work for perfection

in order to meet the demands of serious bow hunters and provide equipment that is up to the task. The muzzleloading craze that was jump started in 1985 when Tony Knight invented his modern day in-line muzzleloader has spread throughout the country. Gun manufacturers continue to improve on technology with muzzleloading rifles that achieve accuracy comparable to centerfire rifles. These frontloaders will deliver the necessary energy to 100 yards and beyond to humanely harvest deer size game in the hands of a competent shooter.

Camouflage clothing is another topic that deserves discussion. Virginia's own Jim Crumley and his Trebark creation set the stage in 1980 for another rage in the hunting world. Although I am sure that it is debatable, Crumley's idea turned out to be the biggest thing that the hunting community has known. Today over 20 different companies design and market different camo patterns for hunters that are found on just about everything hunters use.

When we start to look at the many different tools that deer hunters have today, the tree stand would be at the top of most lists. A selection of





Top: Over the years game wardens have made thousands of routine license checks. Above: In the early 1950s, as today, hunting with dogs was a common practice in eastern Virginia. Louis Farmer (left) and Morris Beck, pictured here with a fine 8-pointer, were two well-noted dog drivers back then.

portable to semi-portable stands that vary from ladders to climbers all but guarantees that the tree stand industry has something to meet any and all hunting situations. Bowhunters, muzzleloaders and gun hunters alike have finally figured out that commercially built stands are safer and more user friendly. Manufacturers have determined that the safety belt, which was used in the early years of tree stand hunting, has become outdated. The full body harness that has been endorsed by many hunter safety instructors has set an all-new standard of excellence.

With the introduction of manda-

tory blaze orange during the general deer season and the requirement for first-time hunters and youth between the ages of 12 to 15 to take a hunter education course, 1987 pioneered more changes. The Department, which always looks for more youth opportunity, also introduced a youth hunting license in hopes of bringing more new youngsters into the sport.

Virginia is steeped in tradition, and when we talk about hound hunting, again things have changed. Hunting with dogs in eastern Virginia is still a common practice and

enjoyed by a large group of deer hunters each year. One of the biggest changes that I have seen in recent times is that more hunters are using beagles. The use of the smaller dog serves several purposes that include lower costs to keep and easier to recover for more drives during the day. However, the long-legged Walker Hound is still a popular breed among deer hunters who hunt big blocks of land with the need to push deer through swamps and tough terrain. Another change in dog hunting is the use of telemetry equipment. Many of the houndsmen today are using radio collars to recover and locate their dogs. This helps the hunters to have dogs for the next day and also makes sure that the dogs are properly cared for after a hard day's work.

After serving as Secretary/Treasurer of two hunt clubs in Chesterfield and Amelia counties over the

past 25 years, it is easy for me to talk about what changes have taken place. With over 90 percent of our state's land privately owned, hunters are faced more and more with hunting leases and club dues in order to secure a place to hunt in the fall. Today deer hunting leases in Virginia average from \$3.00 to \$6.00 per acre depending on the location and number of acres rented. Land maintenance is another cost with road repairs and food plots for wildlife due to more clubs practicing quality deer management. Clubs that use dogs in eastern Virginia have additional costs with kennel licenses, annual shots and huge feed bills. It is very common for clubs to charge \$500.00 per member to cover their annual expenses. This is a far cry from what I witnessed in my younger days of the hunters simply passing the hat.

Hunting in Virginia has weathered many changes since the late 1950s when I started. Growing up in rural surrounds, watching honorable men follow an unwritten code of well-founded hunter ethics has greatly influenced my passion for the sport. The different hunting opportunities that I have experienced throughout this time line has played a major role in my life and in the lives of my family and friends. Many of our readers will be able to relate to many of the things that I have been able to describe and some of you will have stories to tell before my time.

Looking back over my past 45 years of deer hunting in Virginia, I am happy to say that it has been an ongoing learning experience that I consider priceless. When we look ahead to analyze the future of this age-old tradition, I feel certain that more opportunities will unfold offering our next generation much of this same enjoyment and self-satisfaction. □

Denny Quaiff is an avid hunter and is the senior editor of Whitetail Times, the official magazine of the Virginia Deer Hunters Association. For more information on the Association, write Virginia Deer Hunters Association, Inc., P.O. Box 34746, Richmond, VA 23234-0746 or check the VDHA Web site at: www.virginiadeerhunters.org.



CLIP

COMMUNITY LAKE IMPROVEMENT PROGRAM

CLIP is a statewide program of the Virginia Department of Game & Inland Fisheries (VDGIF). This program is a cooperative effort with local agencies to ensure quality fishing experiences for all anglers at community lakes. The VDGIF and the County of Henrico Recreation and Parks are pleased to provide this service for all park visitors.



What's CLIP?

***Fisheries
biologists are
working to
provide quality
fishing close to
home through
the new
Community Lakes
Improvement
Program.***

by Christy Mower

The Virginia Department of Game & Inland Fisheries has introduced an exciting new fisheries program. Although not prone to toot its own horn, there are times when the Department should and can advertise the fact that there is a special fishing program designed to benefit anglers in Virginia. This particular program, known as the Community Lake Improvement Program (CLIP for short), provides the basis for intensive fisheries management at many community lakes throughout Virginia. In this time of limited funds, the Department is placing greater emphasis and critical support into fisheries management on the local level. In cooperation with local parks and recreation departments, many ponds and lakes located in communities, large and

small, throughout Virginia are now getting the special attention they need to provide a good fishery for anglers. More attention, more emphasis on improving fish numbers, diversity, and sizes, all spell better fishing—no, not just better, perhaps excellent fishing.

The benefits of CLIP can be obvious. Intensive fisheries management should result in enhanced fish populations that can result in better angling. A family outing can mean enjoying the great outdoors at a local park with the added benefit of some really good fishing. Anglers of all ages can enjoy the benefits of fishing close to home. That look of joy in the eyes of children can be repeated over and over again each time they catch a fish. No fish will be too small, no time spent with friends and family will be wasted, and a day spent at a local lake will become memories for

a lifetime. These opportunities are the special goals of CLIP.

But what exactly is this new program? Beginning as early as 1997, the Department, with the help of local parks and recreation departments, began a concerted effort to upgrade and revitalize fishing in community lakes. Several years passed as the Department worked on ironing out the details of this new program, and then CLIP kicked into full gear and began expanding throughout the state.

Currently, 14 lakes are part of CLIP. These include Crump, Deep Run (two lakes), Echo, and Three Lakes located in parks throughout Henrico County. In the City of Richmond are three lakes, Fountain and Swan located in Byrd Park and Bryan Park Lake at the northern edge of the City. Claude Moore Park and Franklin Park lakes are located in Loudoun County as is Springhouse Pond, located in Banshee Park. Rounding out the list are Sports Park (two lakes) in the City of Petersburg and Tams Lake in the City of Staunton. In the years to come, CLIP will continue to expand,

adding more lakes throughout the state.

How is this new endeavor of the Virginia Department of Game & Inland Fisheries being realized? CLIP strives to improve, stabilize, and sustain fish populations in Virginia's numerous community lakes and ponds. Employing intensive fisheries management practices optimizes fish populations. Help and support from local parks and recreation departments, landowners, and local conservation and fishing clubs means greater emphasis on angling. CLIP also offers convenience to anglers by providing good fishing in nearby lakes and ponds.

In order to increase an angler's catch and enhance their quality of angling experience, the Department will stock local ponds and lakes with sport fish, including largemouth bass, bream, and that old summertime favorite, the channel catfish. Fish attractors, made up of "dumbos" and "Berkleys," will be placed in lakes to provide better fish habitats, thereby promoting high catch rates. Fish feeders may be placed at appropriate sites in some lakes to help sustain healthy fish populations. To protect the fish populations, CLIP lakes and ponds will also have special fishing creel and size limits determined by lake size and fish community. CLIP signs will be posted at participating lakes to let everyone know those lakes are special!

To further enhance the angler's fishing experience, improvements may be made around the lakes to improve and provide comfortable and relaxing fishing environments for all visitors. Water quality will be monitored and nuisance plants such as weeds and algae will be controlled. Lake owners may plant trees and shrubs along shore lines, construct jogging and walking paths around lakes, build benches and picnic pavilions, and fishing docks may be constructed or improved. Additionally, parking lot construction and road repairs may be upgraded to offer better access.

As CLIP lakes and ponds continue to be established, expect to see

more fish, quality fishing, more and better facilities, and many fun activities. Without a doubt, CLIP lakes will offer better fishing opportunities for everyone, especially families and a very important group of anglers, our children. It will also help provide outdoor enjoyment for all visitors, not just anglers. As a community, you can help CLIP succeed by keeping local lakes and ponds clean, volunteer for special fishing events, and visit CLIP lakes as often as possible! Local conservation and fishing clubs can be of great assistance by supporting efforts to keep our lakes and ponds safe and clean.

This new and exciting program will provide anglers with top quality fishing just around the corner! For more information about CLIP, contact one of your local Department offices. You can also contact an office of the local Parks Department in a city, town, or county that is participating in CLIP. And, of course, keep a look out for CLIP signs near you! □

Christy Mower is a fisheries technician with the Virginia Department of Game and Inland Fisheries.



Since the introduction of CLIP to Deep Run Lake in Henrico County, fishing has greatly improved and so has the catch—ing, says 15-year-old Seth Kameros.



The advantage of CLIP is that it is a community effort, aimed at offering everyone and especially families a day of fishing or just relaxing in the outdoors.



Journal

2003 Outdoor Calendar of Events

September 7-10: *Decoy Carving Workshop*, Holiday Lake 4-H Educational Center, Appomattox, VA. Learn how to carve your own decoy, carving experience not needed. Tools, materials and instruction will be provided. For information call: (434) 248-5444 or www.ext.vt.edu/resources/4h/holiday/adultprograms.html.

September 13-14: *The Virginia Outdoors Weekend*, Westmoreland State Park, Montross, Va. For information call (804) 367-6351. □

September 13-14: *Western Regional Big Game Championship*, Rockingham County Fairgrounds, Harrisonburg, Va. U.S. 11, 1.6 miles south of exit 243 off I-81. For more information contact Jon Ritenour at 540-434-8028 or go online at www.vpsa.org.

September 20: *Adult/Youth Squirrel Hunting Workshop*, C. F. Phelps WMA, Fauquier County; Pettigrew WMA, Caroline County; and Powhatan WMA, Powhatan County. For information call (804) 367-1147.

September 27-28: *Eastern Regional Big Game Championship and State Championship*, Southampton County Fairgrounds, Franklin, Va. For more information contact Kenneth Pickin at (757) 229-0490 or go online at www.vpsa.org.

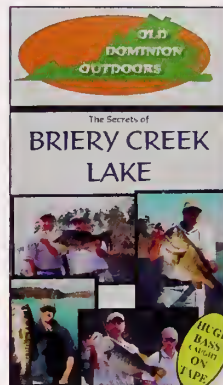
October 3-5: *Eastern Shore Birding Festival*. For more information call (757) 787-2460 or visit www.esvachamber.org/festivals/birding.

October 4-5: *United Kennel Club Beagle World Championship Hunt*,

Saltville, Va. For more information contact Randy Smith at (276) 496-4870. □

November 22: *Generation Deer Hunt*, Occoquan Bay National Refuge. For information call (804) 367-1147.

November 24: *Women's Deer Hunt*, Occoquan Bay National Refuge. For information call (804) 367-1147.



Briery Creek Lake Video

The Secrets of Briery Creek Lake, from Old Dominion Outdoors, hosted by Neil Renouf, is a video guide that you will not want to miss. This one-hour video takes viewers on a close-up look at one of Virginia's best know "big bass lakes."

Briery Creek is an 845-acre public lake located in Prince Edward County, just south of Farmville on Rt. 15, and is owned and managed by the Virginia Department of Game and Inland Fisheries. The lake has gained national attention over the years for its stunning largemouth bass population, which occasionally tops the 14-pound range. That's right 14 pounds, and with a little persistence, and help from Department fisheries biologists, Neil Renouf manages to give the viewers a chance to see firsthand why Briery Creek Lake has become so famous.

Close-up aerial video, in-depth interviews with Department fisheries biologists, and angling tips that

target key fishing techniques and hotspots make *The Secrets of Briery Creek Lake* one of the best angling video values on the market.

The Secrets of Briery Creek Lake videotape is available through local tackle shops or by calling Neil Renouf at (804) 266-1469. If you would like to see a list of other videos produced by Old Dominion Outdoors and additional information about video guides on Virginia waters, you can visit www.olddominionoutdoors.com. □



Aquatic Information Database

If your club or organization has an aquatic nature about it (fishing, aquatic conservation, aquatic stewardship, boating, etc.) and likes staying informed about aquatic resource information, then it needs to make sure that its correct information is on file with the VDGIF. So we can keep you in the loop, please have a repre-

sentative send your organizations most current contact information by e-mail to blevin@dgif.state.va.us or by mail to Brett Levin, VDGIF, 4010 West Broad St., Richmond, VA 23230. □



A Lesson Never Learned

by Jennifer Worrell

Hunter Education Lieutenant Jon Ober remembers confronting some suspicious individuals during his patrol in Gloucester County. After a court revoked one man's hunting privileges and license for several years in a row, Ober caught him releasing dogs to chase deer. The man swore he was merely releasing the dogs for his friends and would leave immediately.

"I promise you, I'm not never going hunting again," he said.

Shaking his head despairingly, the officer received a call and left the area to take care of another complaint. Not two hours later, Ober received word that there had been a hunting accident near the area where the man had let the dogs go. He raced to the scene and found the man strapped to a stretcher, his lower leg filled with number four buck shot. He had been trespassing and hunting without his blaze orange; unfortunately, another hunter had failed to properly identify his target and had mistaken his movements for a deer and shot him from 30 feet away.

Ober leaned over him as emergency medical technicians were loading him into the ambulance and asked him if he would ever hunt again.

"No, I promise, I'm never going hunting again."

The officer apprehended him again, hunting without a license, the following hunting season. It was

clear that this individual wasn't going to play by the rules and he would never learn his lesson. □

Wal-Mart FLW Tour Is Coming to Richmond

by Marc N. McGlade

Question: What do the James River and the biggest payday ever in competitive bass fishing have in common? Answer: The \$1.5 million Jacobs Cup, named after FLW Outdoors chairman Irwin L. Jacobs.

River City—that's right, Richmond, Va.—is playing host to the inaugural Jacobs Cup, the world championship of the Wal-Mart FLW Tour. The highly-skilled angler who wins all the beans will pocket an astounding \$500,000.



©Marc McGlade

Don't forget to mark your calendar to attend the world championship FLW Jacobs Cup fishing tournament September 10-13, 2003 in Richmond.

Virginia Governor Mark Warner said, "The road to Richmond is paved with gold. That gold is not just for FLW Tour competitors. The Jacobs Cup will generate millions of dollars for the local economy... This tournament is a significant economic development victory for the Commonwealth."

It is estimated that Richmond can realize an economic impact from \$8 to \$9.5 million.

Communications director for FLW Outdoors, Dave Washburn, said, "We chose Richmond and the James because they both have a rich history of promoting and supporting championship fishing and seemed a logical choice to crown the

best angler in the world in this setting."

The Wal-Mart FLW Tour—named in tandem for Wal-Mart and Forrest L. Wood, founder of Ranger Boats—launched in 1996. It is bass fishing's most lucrative circuit.

The championship event takes place from Wednesday, September 10 through Saturday, September 13, 2003. Daily launches depart at 7:00 a.m. from Osborne Landing in Henrico County (phone 804-501-7275), with weigh-ins commencing at 5:00 p.m. at the Greater Richmond Convention Center (300 North 5th Street in downtown Richmond, phone 804-783-7300). The Outdoor Show runs from 1:00 p.m. to 9:00 p.m. each day and free giveaways including hats, shirts, rods, reels, tackle, and tackle boxes will be given to the first few thousand kids.

The top 48 professional anglers (and 48 co-anglers) have spent this year qualifying through a series of six tournaments. Anglers represent 34 states, Canada and Japan.

The field will be cut to 24 pros on Day 3 based on their weights from Days 1 and 2. The final round (Day 4) will be whittled down to 12 anglers, who will duke it out for the top spot.

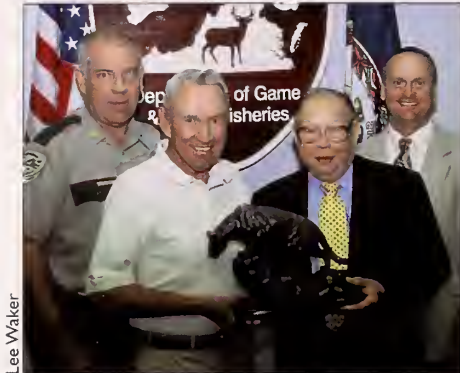
Hundreds of vendors will pepper the area as they promote their wares. Additionally, a charity bass tournament to benefit the City of Hope (phone 213-241-7118 or 213-241-7143) is scheduled for Monday, September 8, 2003, at Lake Chesdin with proceeds going to prostate cancer research.

To top off the Jacobs Cup, a free country music concert should get everyone stomping their feet on Saturday at 7:00 p.m., featuring none other than Brad Paisley, whose hit single "I'm Gonna Miss Her (The Fishing Song)" should be met with a roar.

On the tournament's final day, September 13, 2003, a limited-edition NASCAR boat from Ranger Boats will be given to one lucky member of the audience!

The Virginia Department of Game and Inland Fisheries will host a booth to assist with all aspects of

the event. Come out to see what should truly be an amazing scene, in Virginia's backyard, from September 10-13, 2003. Admission is free, so plan to bring the entire family. For additional information, visit www.flwoutdoors.com. □



Lee Walker

Left to right: Col. Herb Foster, John Dodson, Dr. William Nichols and Major Terry Bradbery.

Hunter Education Receives International Recognition

by Julia Dixon Smith

Two of the Virginia Department of Game and Inland Fisheries' (VDGIF) volunteer Hunter Education instructors have been given Hall of Fame Awards from the International Hunter Education Association. John Dodson, of Culpeper, and Dr. William "Bill" Nichols of Waynesboro, both received the awards.

John Dodson, a Master Hunter Education Instructor, has been involved in the Department's Hunter Education programs for 15 years. He developed the first Hunter Safety Trail at the Hunter Education Championships, a program in which youth, age 8 to 18, from across the state compete individually and as teams in marksmanship for rifle, shotgun and archery, and in wildlife identification and hunting ethics. He organized and conducted a Hunter Education mini-competition in preparation for the Hunter Education Championships. In 1990 he started the Cedar Mountain Youths, Inc. with the intention of teaching

firearms safety to young people. He developed a local 4-H shooting program with the Cooperative Extension Service. Dodson has been named Virginia Wildlife Federation Hunter Education Instructor of the Year in the past and in 1995 was the recipient of the William Dixon Morgan Memorial Award.

Bill Nichols, a Master Hunter Education Instructor, has been involved in the Department's Hunter Education programs for 9 years. He was instrumental in the development of the Virginia Hunter Education Student Manual and Virginia Hunter Education Instructor Manual. He continues to work on developing Hunter Education curriculum for the Department and has provided extensive input and evaluations of various Outdoor Education events and Hunter Education Volunteer Instructor Training. In the past Nichols oversaw Hunter Education classes in a local school system in Augusta County. He is an active member of the International Hunter Education Association. He served in the U.S. Marine Corp and was awarded a Bronze Star for service in Korea. Nichols was a recipient of the William Dixon Morgan Award in 1999.

Also recognized for his outstanding efforts in Hunter Education Major Terry C. Bradbery has earned the Darrell Holt Memorial Award from the International Hunter Education Association. This award recognizes the Hunter Education administrator who is or has worked under conditions that call for a determination to succeed despite seemingly insurmountable obstacles such as physical disabilities, working conditions, accident, disease, personal hardship, etc. This award recognizes the individual's success against his or her obstacles.

During 2002, when Terry Bradbery was still serving in the position of Captain (Outdoor Education Manager and Hunter Education Administrator) he underwent heart bypass surgery. As he recuperated, he provided input and direction to

those who were managing the program in his absence. After he returned to work, he was promoted to the rank of Major, Assistant Chief of Law Enforcement.

Major Terry Bradbery has contributed time and energy far beyond the norm to enhance Hunter Education in Virginia. The program has grown significantly under his guidance. Consequently, hundreds of the Department's Hunter Education volunteer instructors have been able to take advantage of new and innovative advanced training opportunities at many workshops during Bradbery's tenure.

Bradbery has been with the Department since 1987, with 10 years dedicated to the Hunter Education/Outdoor Education Program. He oversaw the development of the Virginia Hunter Education student and instructor manuals, focusing classroom material on topics and material most relevant to resident students. He has been instrumental in having Regional Hunter Education Coordinators upgraded from Sergeants to Lieutenants, recognizing their talents and professionalism. He spearheaded the development of the Virginia Outdoor Education Program, introducing women and families to hunting and outdoor recreation, directly resulting in increased participation in hunting in Virginia. Under his leadership the Department has modified instructor training to incorporate more teaching techniques and enhancing an instructor's ability to better teach all students. Bradbery also served on the Holiday Lake 4-H Educational Center Board of Directors.

This award is named for former Texas Hunter Education Coordinator Darrell Holt, who was diagnosed with leukemia in the early 1970s and was told he would succumb to the deadly disease within six months. He lived for 17 more years after a valiant fight all the while exposing himself to experimental treatment and drugs. Despite his terminal illness, Darrell established an outstanding program in Texas. □



On The Water

by Jim Crosby

Blowing Your Horn

Like cars, most boats have a horn, but they serve a much more important function than just to get your attention. The captain on that supertanker is not offering you an enthusiastic greeting with his five short blasts on the horn. He is sounding the danger signal to tell you there isn't enough time for you to cross in front of him without collision.

Sound signals are a very important tool for communicating between boats with very specific meaning. Most of us learn to drive cars before boats and that leads to much confusion.

The car horn blowing behind you could mean many different things. It could mean the blower wants you to drive faster, it could mean that they want to pass you, it could be they just want to get your attention for a wave between friends.

The boat horn sounding behind you means they are overtaking you and want to pass. They can even tell you on which side by the number of blasts sounded on the horn. A single short blast of one-second duration means the vessel wants to pass you on your right. In this case, you would look around and if you determine that they can accomplish that safely, you respond with the same sound signal. If you determine that cannot be accomplished safely, you would respond with the danger signal of five short (one second) blasts on the horn. Suppose you spot an outcrop of rock just showing at the surface off to your right that would make such a passing unsafe for the

overtaking vessel. You could warn them off with the danger signal.

Suppose they came back with two short blasts on the horn. You could tell them that would be safe by responding with the same signal because they are now telling you they want to pass on your left. You acknowledge that signal after looking around to determine they can accomplish such an overtaking safely.

Sound signals are a very important part of the Inland and International Navigation Rules applicable on all coastal waters. While Virginia does not recognize sound signals in its boating regulations, they are still a great safety measure where there is heavy boating traffic, such as we have on our larger lakes and major rivers.

For example, while traveling down a narrow channel between

slips in a marina you hear, just ahead, a prolonged blast of between four and six seconds duration. This vessel is telling you that it intends to pull out from its slip. That is an important warning to you to slow to a stop and sound the danger signal to avoid a collision. Even worse, if the prolonged blast is followed by three short blasts, because that means the vessel is going to back out in front of you.

Obviously, knowing the marine sound signals can be a great safety factor when boating, and I recommend a short investment in time to learn and use them. On our inland lakes, most of the boaters you encounter will not know how to use or respond to them. However, at the very least you will be getting their attention and maybe contribute something to their safety education. □



©Dwight Dyke

RECIPES

by Joan Cone

Squirrel—America's Favorite

Frequently, someone will ask me, "Do you really eat squirrel?" Obviously, they have never tried it. The taste resembles dark meat of turkey. However used, squirrels are wonderful table fare.

Our forefathers considered these small animals essential and hunted them year round. Even today more hunters go for squirrel than any other game.

Menu

Baked Squirrel With Apples

Mandarin Rice Salad

Green Beans With Toasted Pecans

Amaretto Apricot Bundt Cake

Baked Squirrel With Apples

- 3 squirrels, halved
- Salt to taste
- Flour
- Pepper to taste
- ½ cup vegetable oil
- 3 tart apples, peeled, cored and quartered
- 3 tablespoons honey
- 3 tablespoons brown sugar

Preheat oven to 350° F. Boil squirrel pieces in water with salt until tender. Save 1 cup of broth. Dry squirrel halves on paper toweling; roll them in flour and pepper. Heat oil in a large skillet and fry squirrel until brown. Place browned pieces in a large baking dish and add the 1 cup of broth you saved. On top of squirrel halves place the apple quarters, honey and brown sugar. Bake in oven for 45 minutes or until apples are done. Serves 4.

Mandarin Rice Salad

- 1 can (11 ounces) Mandarin oranges, drained
- 2 cups cooked rice, chilled
- ¼ cup seedless raisins
- ⅓ cup poppy seed dressing

Combine all ingredients. Toss gently to blend. Serves 4.

Green Beans With Toasted Pecans

- 3 tablespoons margarine spread, melted
- 1 teaspoon sugar
- Garlic powder to taste
- Pinch ground red pepper
- Salt to taste
- ⅓ cup chopped pecans
- 1 pound green beans

In small bowl, blend melted margarine, sugar, garlic powder, pepper and salt. In a 12-inch nonstick skillet, heat 2 teaspoons of garlic mixture over medium-high heat and cook pecans, stirring frequently, 2 minutes or until pecans are golden. Remove pecans and set aside. In same skillet, heat remaining garlic mixture and stir in green beans. Cook covered over medium heat, stirring occasionally, 6 minutes or until green beans are tender. Stir in pecans. Serves 4.

Amaretto Apricot Bundt Cake

- 1 package (18.25 ounces) spice cake mix
- 1 cup water
- ⅓ cup Amaretto (almond flavored liqueur)*
- ⅓ cup vegetable oil
- 3 large eggs

- 1 package (6-7 ounces) apricots, finely chopped

Glaze:

- 1 ½ cups powdered sugar
- 1 tablespoon milk
- 1 to 2 tablespoons Amaretto*

Preheat oven to 350° F. Grease and flour a 12-cup (10-inch) bundt pan. Combine cake mix, water, ⅓ cup Amaretto, oil and eggs. Beat at low speed for 1 minute. Scrape down sides of bowl. Increase speed to medium and beat 2 minutes longer. Stir in apricots and pour batter into prepared pan. Bake about 45 minutes or until cake is golden brown and springs back when lightly touched. Cool in pan on wire rack 20 minutes. Invert cake onto serving platter. Combine powdered sugar and milk. Stir in enough Amaretto to make a medium-thick glaze. Spoon over top of warm cake, letting excess drip down sides. Cool completely before serving. Makes 12 to 14 servings.

*NOTE: ⅓ cup water plus 1 ½ teaspoons almond extract may be substituted for Amaretto. For glaze, replace Amaretto with ¼ teaspoon almond extract and increase milk to 2 tablespoons. □





story and illustration
by Spike Knuth

Naturally Wild



American Goldfinch *Carduelis tristis*

By September, most birds have completed or are completing nesting and rearing of their young. But one colorful little bird is still in the middle of their reproductive duties. While some may begin nesting as early as July, most of them nest in August and are raising young into early September.

To many, the goldfinch is known as the wild canary, but it is also known as thistle bird, lettuce bird, or sunbird. The summer male is a bright lemon yellow with a black cap that resembles a hat tipped jauntily forward on its forehead. Its relatively long, pointed wings are black with two white wing bars, and white-edged secondary feathers. Its forked tail is also black with white edgings. Females and young are olive-brown above with yellowish-olive under parts and blackish wings and tails. Come winter, the male will look similar, except with more grayish under parts.

During the winter, goldfinch flock up often with other finches and sparrows. In late March through early May, they gather with their own kind feeding in the tops of large trees, on buds of flowers and fruit sets. At this time you will hear the constant noisy chattering or twittering, along with the common "sweet" notes that have an upward or "questioning" inflection on the end.

Later, or in flight they utter a call described as "per-chick-o-ree" as they fly with an undulating or roller coaster-like flight style. Even while feeding in a field or flowerbed, they exhibit the fluttery up and down motion; almost butterfly-like. They spend most of the spring and early summer carefree; just seeming to be enjoying life.

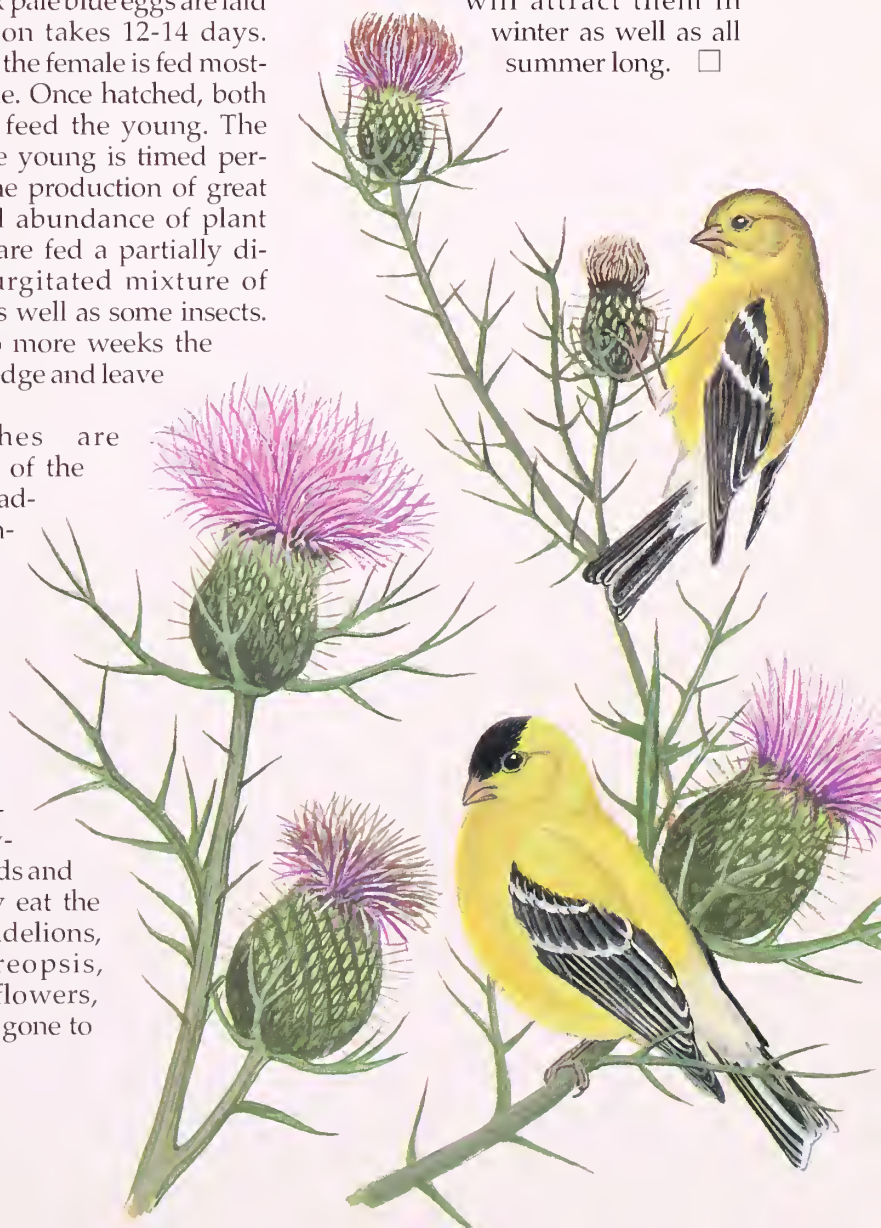
After a short courtship period in August, the female begins building a compact, cup-shaped nest. The nest is built of grasses, plant fibers, and lined with fine grass and plant down from thistle, milkweed, or other soft material. Usually it is placed in the fork of a small tree or shrub from three to 20 feet off the ground. It is built so compact that it is said that it can hold water for a time.

Three to six pale blue eggs are laid and incubation takes 12-14 days. While sitting, the female is fed mostly by the male. Once hatched, both parent birds feed the young. The rearing of the young is timed perfectly with the production of great varieties and abundance of plant seeds. They are fed a partially digested, regurgitated mixture of these seeds as well as some insects. In about two more weeks the young will fledge and leave the nest.

Goldfinches are mainly birds of the fields and meadows that contain scattered trees and bushes. Here they feed on the seeds of goldenrod, ragweed, millet, asters and the various sunflowers. In the yards and gardens, they eat the seeds of dandelions, zinnias, coreopsis, salvia, coneflowers, garden crops gone to

seed, such as lettuce and radish, and herbs such as catnip and coriander. Here you'll see them swinging and swaying on branches fluttering to maintain their balance. They'll even grab mouthfuls from the disk of a sunflower before its formed seeds.

They will also come to backyard feeders all year round. Black oilseed sunflower seed and thistle (niger) seed are among their favorite foods. A tube type feeder with thistle seed will attract them in winter as well as all summer long. □

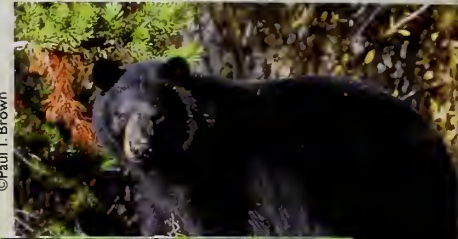


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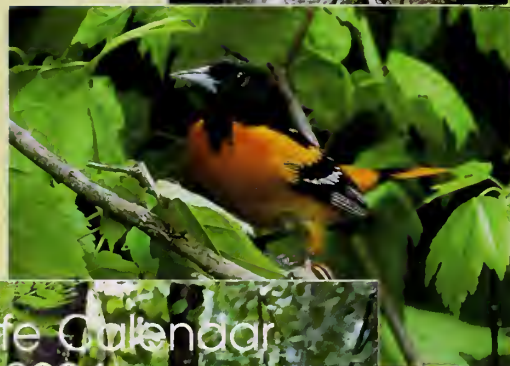
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